

IN THE CLAIMS

Please replace claims 1, 11 and 14 with amended claims 1, 11 and 14 as follows:

1. (Three Times Amended) A printing system receiving input data for printing images on a print media, comprising:

an inkjet printhead having a body and ink ejection devices located on a substrate, each being associated with one of plural die sectors;

a temperature sensor that senses temperatures of the plural die sectors and other portions of the inkjet printhead; and

a controller that uses the sensed temperatures to control temperature variations of the die sectors and at other portions of the printhead to be within a predefined range from a starting point of a print swath to an end point of the print swath and successive print swaths of pigmented ink;

wherein air bubble growth rates and bubble size are minimized within the printhead to enable expulsion of the ink from the printhead without clogging and wherein all of the die sectors are kept at an optimal temperature, including die sectors that are inactive during the print swath.

11. (Three Times Amended) A method for printing images with an inkjet printhead on a print media from a printing system having heating elements located on a substrate, the method comprising:

receiving temperature values of plural die sectors having a set of ink ejection elements of the substrate before printing begins;

comparing the temperature values with set points for printing for each die sector;

initiating the heating elements associated with the die sectors that have temperatures below a predetermined printing threshold;

turning off the heating elements associated with the die sectors that have temperatures below a predetermined printing threshold when the threshold temperature of the substrate has been reached;

controlling temperature variations of the die sectors of the printhead to be within a predefined range from a starting point of a print swath to an end point of the print swath and successive print swaths of pigmented ink; and

minimizing air bubble growth rates and bubble sizes within the printhead to enable expulsion of the ink from the printhead without clogging when pigmented ink is used and wherein all of the die sectors are kept at an optimal temperature, including die sectors that are inactive during the print swath.

14. (Three Times Amended) A large array inkjet printing apparatus that prints pigmented ink, comprising:

a monolithic substrate defining a printhead;
a large array of ink ejection elements formed on the substrate, each being associated with one of plural die sectors;
a nozzle member coupled to the substrate; and
a controller that controls temperature variations of the die sectors and at other portions of the printhead to be within a predefined range from a starting point of a print swath to an end point of the print swath and successive print swaths of pigmented ink;

wherein air bubble growth rates and bubble size are minimized within the printhead to enable expulsion of the ink from the printhead without clogging and wherein all of the die sectors are kept at an optimal temperature, including die sectors that are inactive during the print swath.